

CLAIMS

1. A system for determining whether an interface is capable of fulfilling a quality of service demand of an application, said system comprising:

an interface capable of both linking to applications and performing services for said applications; and

said applications including a demand specifier that defines a required quality of service to be performed by said interface, wherein a capability of said interface to perform said required quality of service is determined upon initializing a link between said interface and said application.

2. The system as recited in claim 1, wherein the demand specifier does not depend upon system requirements of said interface.

3. The system as recited in claim 1, wherein the demand specifier does not depend upon a medium linking said interface and said applications.

4. The system as recited in claim 1, wherein said demand specifier includes a probability assertion.

5. The system as recited in claim 1, wherein the demand specifier is dependent upon a predefined maximum acceptable latency between requesting a service and performance of the service.

6. The system as recited in claim 1, wherein the demand specifier is dependent upon a predefined minimum reliability of the link between said interface and said applications.

7. The system as recited in claim 1, wherein the demand specifier is dependent upon a predefined required security of said link.

8. The system as recited in claim 1, wherein said interface includes a network

of microprocessor based controllers.

9. The system as recited in claim 1, wherein said interface includes a network of microprocessor based controllers and said applications includes a remote microprocessor based computer linked to said interface.

10. The system as recited in claim 4, wherein said probability assertion is defined by a pair of density bounds.

11. The system as recited in claim 10, wherein the pair of density bounds determine the maximum acceptable latency between requesting a service and performance of the service.

12. The system as recited in claim 10, wherein the pair of density bounds are dependent upon a predefined minimum reliability of the link between said interface and said applications.

13. The system as recited in claim 13, wherein the pair of density bounds are dependent upon a predefined required security of said link.

14. A system for determining whether an interface is capable of fulfilling a quality of service demand of an application, said system comprising:

an interface capable of both linking to a plurality of applications and performing services for said applications; and

said applications including a probability assertion that defines a required quality of service to be performed by said interface, wherein a capability of said interface to perform said required quality of service is determined upon initializing a link between said interface and said application.

15. The system as recited in claim 14, wherein the probability assertion does not depend upon system requirements of said interface.

16. The system as recited in claim 14, wherein the probability assertion does not depend upon a medium linking said interface and said applications.

5 17. The system as recited in claim 14, wherein the probability assertion is dependent upon a predefined maximum acceptable latency between requesting a service and performance of the service.

10 18. The system as recited in claim 14, wherein the probability assertion defines a minimum reliability of the link between said interface and said applications.

19. The system as recited in claim 14, wherein the probability assertion defines a required security of said link.

15 20. The system as recited in claim 14, wherein said interface includes a network of microprocessor based controllers.

20 21. The system as recited in claim 14, wherein said interface includes a network of microprocessor based controllers and said applications includes a remote microprocessor based computer linked to said interface.

22. The system as recited in claim 14, wherein said probability assertion is defined by a pair of density bounds.

25 23. The system as recited in claim 22, wherein the pair of density bounds are dependent upon a predefined maximum acceptable latency between requesting a service and performance of the service.

30 24. The system as recited in claim 22, wherein the pair of density bounds are dependent upon a predefined minimum reliability of the link between said interface and said applications.

25. The system as recited in claim 22, wherein the pair of density bounds are dependent upon a predefined required security of said link.

5 26. A system for determining whether an interface is capable of fulfilling a quality of service demand of an application, said system comprising:

control means for processing requested services, said control means capable of both linking to a plurality of applications and performing services for said applications; and

10 said applications including demand means for defining a required quality of service to be performed by said control means, wherein a capability of said control means to perform said required quality of service is determined upon initializing a link between said control means and said demand means.

15 27. The system as recited in claim 26, wherein the demand means does not depend upon system requirements of said control means.

20 28. The system as recited in claim 26, wherein the demand means is dependent upon a predefined maximum acceptable latency between requesting a service and performance of the service.

25 29. The system as recited in claim 26, wherein the demand means is dependent upon a predefined minimum reliability of the link between said demand means and said control means.

30 30. The system as recited in claim 26, wherein the demand means is dependent upon a predefined required security of said link.

31. The system as recited in claim 26, wherein said control means includes a network of microprocessor based controllers.

32. The system as recited in claim 26, wherein said control means includes a network of microprocessor based controllers and said demand means includes a remote microprocessor based computer linked to said control means.

5 33. A method for determining whether an interface is capable of fulfilling a quality of service demand of an application, said method comprising the steps of:

including in an application a demand specifier that defines a required quality of service to be performed by an interface;

linking the interface to said application;

10 determining whether the interface is capable of performing the required quality of service of said application upon initializing a link between said interface and said application, wherein the demand specifier does not depend upon system requirements of said interface; and

15 terminating the link between the interface and application if the interface is not capable of performing the quality of service required by the application.

34. The method according to claim 33, wherein the demand specifier does not depend upon a medium linking said interface and said applications.

20 35. The method according to claim 33, wherein said demand specifier includes a probability assertion.

25 36. The method according to claim 33, further including the step of setting the demand specifier dependent upon a predefined maximum acceptable latency between requesting a service and performance of the service.

30 37. The method according to claim 33, further including the step of setting the demand specifier dependent upon a predefined minimum reliability of the link between said interface and said applications.

38. The method according to claim 33, further including the step of setting the

demand specifier dependent upon a predefined required security of said link.

39. The method according to claim 33, wherein said interface includes a network of microprocessor based controllers.

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40. The method according to claim 33, wherein said interface includes a network of microprocessor based controllers and said applications includes a remote microprocessor based computer linked to said interface.

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